

Patent Claims

1. Method for the temperature management in a
5 network (1) having a ring topology,

- control devices (2) exchanging data by way of
the network (1) by means of transmitting/receiving
units (5),

characterized in that

10 - the temperature is measured close to the
transmitting/receiving unit (5) of at least one control
device (2) and

- as soon as the temperature at the
transmitting/receiving unit (5) of the control device
15 (2) exceeds a defined critical temperature T_{krit} ,

- the transmitting/receiving unit (5) is switched
off and

- prompting requests to the network (1) on the
part of the control units (2) are blocked.

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2. Method according to Claim 1,

characterized in that

- as soon as the temperature of the
transmitting/receiving unit (5) exceeds the defined
25 critical temperature T_{krit} , the control unit (2) is
driven into an energy saving mode, in which

- the prompting readiness mode of the control
unit (2) and

- the temperature measurement close to the transmitting/receiving unit (5) of the control unit (2) are ensured.

5 3. Method according to Claim 1,
characterized in that

- the blocking of the prompting requests is lifted

10 - as soon as, within a defined time period, the temperature of the transmitting/receiving unit (5) has fallen to a temperature below the defined critical temperature T_{krit} and below a defined threshold value temperature T_{th} , the threshold value temperature T_{th} being below the critical temperature T_{krit} .

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4. Method according to Claim 1,
characterized in that

20 - when a defined temperature T_{inf} is reached which is below the defined critical temperature T_{krit} and above a defined threshold temperature T_{th} ,

- the additional control devices (2), the driver as well external servicing locations are informed of a possible overheating, and/or

- preventive protective measures are taken.

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5. Method according to Claim 4,
characterized in that the preventive protective measures comprise

- activating the automatic air-conditioning system and/or
- switching off heat sources and/or
- activating heat protection devices and/or

5 - activating an emergency running function of a control device which can be used without any network functionality.

6. Method according to Claim 1,
10 characterized in that

- when the critical temperature T_{krit} is reached, the additional control devices (2) are notified, and
- after receiving this message, the additional control devices (2) switch off the

15 transmitting/receiving units (5) or themselves.

7. Method according to Claim 1,
characterized in that the control device (2) is changed into a readiness mode or is switched off when the
20 temperature of the transmitting/receiving unit (5) during a defined time period is above the critical temperature T_{krit} or is identical with the critical temperature T_{krit} .

25 8. Method according to Claim 1,
characterized in that

- the network (1) is designed as an optical databus network (1) with an electric prompting line, and

- the blocking of the prompting request takes
5 place in that the prompting line is grounded.

9. Method according to Claim 1,
characterized in that, when the critical temperature
Tkrit is reached, an error code is stored for diagnostic
10 purposes.

10. Method according to Claim 1,
characterized in that the critical temperature Tkrit
corresponds to the maximal operating temperature of the
15 transmitting/receiving units.

11. Databus system in ring topology
- having at least one control device (2) with a
transmitting/receiving unit (5) which is used for
20 coupling the control device to the databus (1),
- having an analog-to-digital converter (7) for
converting the analog sensor signals of a sensor (6) to
digital measuring signals which are processed in the
microcomputer (8) of a control device,
25 characterized in that
- the sensor is a temperature sensor (6)
positioned close to the transmitting/receiving unit
(5),

- prompting devices for the databus and transmitting/receiving unit switch-off devices are present, and

- a device (8) is present which interacts with
5 the prompting device, and the transmitting/receiving unit switch-off device and the digital temperature signal in order to switch-off the transmitting/receiving unit (5) and to block the prompting device when a defined critical temperature
10 T_{krit} is exceeded.

12. Databus system according to Claim 11, characterized in that, when the defined critical temperature T_{krit} is exceeded, the device (8) switches
15 the control device (2) into an energy saving mode in which the prompting readiness of the control device (2) as well as the temperature measurement at the transmitting/receiving unit (5) of the control device (2) are ensured.

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13. Databus system according to Claim 11 or 12, characterized in that the device (8) is a software-and/or hardware-implemented program.

25 14. Databus system according to Claim 11 for use in a control device (2).